Claims

1. A proportional pressure control valve (1) for controlling the pressure level in a hydraulic circuit, especially in a hydraulic circuit of a gearbox of a motor vehicle, having a push rod (5) as connection between a control element (13) arranged in the hydraulic circuit and a proportional magnet located in the housing (10), which comprises a magnetic core (2), a magnetic anchor (3), and a magnetic coil (4), while the magnetic coil (4) and the magnetic core (2) are securely connected to the housing (10), and the magnetic anchor (2) has a magnetic control edge (12) and the magnetic anchor (3) can be moved back and forth axially between two end positions by means of a magnetic force, which has as a consequence an actuation of the control element (13), and whereupon a greatest possible, magnetically acting gap (11) can be formed between the front faces of the magnetic core (2) and the magnetic anchor (3), wherein at least one part of the magnetic anchor (3, 3") is arranged to be movable relative to the anchor rod (6) in dependence upon the magnetic flow, so that a gap (14), which is enlarged with respect to the gap (11), and/or an additional second gap (8) is produced.

2. The proportional pressure control valve (1) of Claim 1, wherein the magnetic anchor (3) is arranged to be displaceable in dependence upon the magnetic flow along the anchor rod (6), so that the gap (8) can be adjusted between the anchor halves (3', 3") and/or the gap (14) can be adjusted between the magnetic anchor (3) and the magnetic core (2) against the force of an elastic element or a spring (7) in dependence upon the magnetic flow.

3. The proportional pressure control valve (1) of Claim 2, wherein the spring (7) is supported on an anchor rod collar (9).

4. The proportional pressure control valve (1) of one of the previous claims, wherein the magnetic anchor (3) comprises at least two parts (3', 3"), wherein a first part (3') is securely connected to the anchor rod (6), and a second part (3") is arranged so as to be axially displaceable on the anchor rod (6), so that a gap (8) is produced between the parts (3', 3") of the magnetic anchor (3), which

can be adjusted against the force of an elastic element or a spring (7) in dependence upon the magnetic flow.

5. The proportional pressure control valve (1) of one of the previous claims, wherein the P/I-curve of the proportional pressure control valve (1) has a progressive gradient.

6. The proportional pressure control valve (1) of Claim 5, wherein the gradient of the P/I-curve has a very flat rising gradient within the low current range and a steep rising gradient within the range having mid to high current strength.

7. The proportional pressure control valve (1) of Claim 6, wherein the rising gradient of the P/I-curve in the first half of the overall current interval amounts to approx. 4.0 bar/A and in the second half the overall current interval amounts to up to 16 bar/A.